FISHERIES RESEARCH BOARD OF CANADA

Atlantic Biological Station

St. Andrews, N. B.

A. W. H. NEEDLER, *Director*

General Series, No. 13 CIRCULAR December, 1948

Fishing Eels - A Profitable Side Line

L. R. Day

Common or American eel (Anguilla bostoniensis)

In the Maritimes almost every lake and stream system, from its origin to where it meets the sea as a stream mouth, muddy estuary or tidal marsh, supports an abundance of eels. After six to eight years in these fresh and brackish waters, large quantities of fat, maturing eels run down Maritime streams each fall on their way to the spawning grounds. These migratory concentrations provide excellent conditions for large catches of the best-quality eels which average thirty inches in length and two pounds or more in weight.

The eel is one of our most neglected resources. Lack of consumer appreciation for its delicious taste and food value has kept the annual commercial catch in Canada around one million pounds with a landed value of about one hundred thousand dollars. Quebec fishermen take three-quarters of this total from the St. Lawrence river and its tributary waters.

In Denmark, Holland, Germany, Sweden, Norway and Poland where smoked eels are in high demand, twenty-six million pounds valued at four million dollars are caught and consumed each year. Before 1939, Canada added to this consumption by exporting three hundred thousand pounds, or about one-third of the annual catch, to Germany.

Eels are sufficiently abundant in Maritime waters to support a far greater production than the present one. Commercial fishing gear is simple in design and inexpensive to build, use and keep in good repair.

How eels are fished.

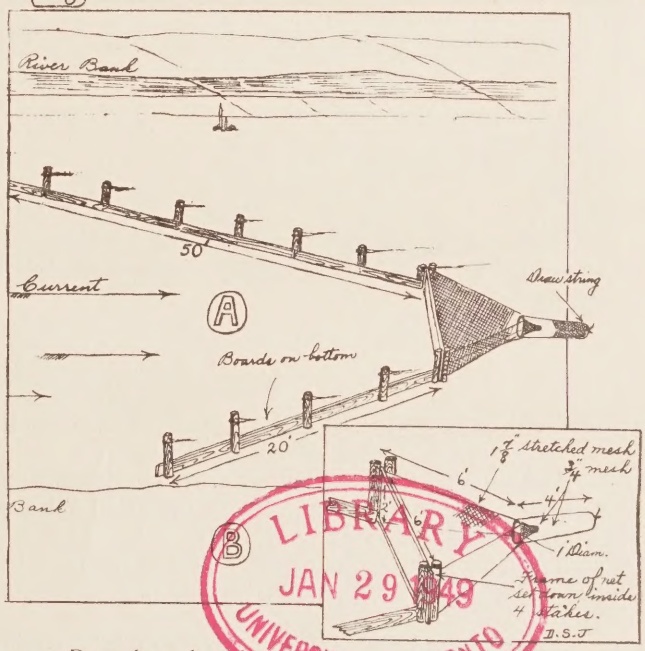
Many kinds of small-meshed gear which will catch and hold fish are used in fishing eels. In Europe, fyke nets (a series of netted hoops and funnels leading into a trap), baited trawls, seines and weirs are used extensively. Weirs, set nets, eel pots, hook and line and specially designed spears are used in the Maritime regions of Eastern Canada.

In this circular the three most common methods of fishing eels are described.

Set-net eel fishing.

This method is used on the main streams to fish the high-quality eels of the fall run. The essential parts (figure 1) are the two wings which guide the fish into a long, small-meshed tapering bag inside of which is a cone-shaped funnel. The two wings are made of boards and stakes supported by rock, or of rocks, brush or cotton webbing. These wings taper to a six-foot opening on the downstream side. This opening is slotted to receive a wooden frame from which the funnelled cotton-webbing bag is suspended.

Figure 1



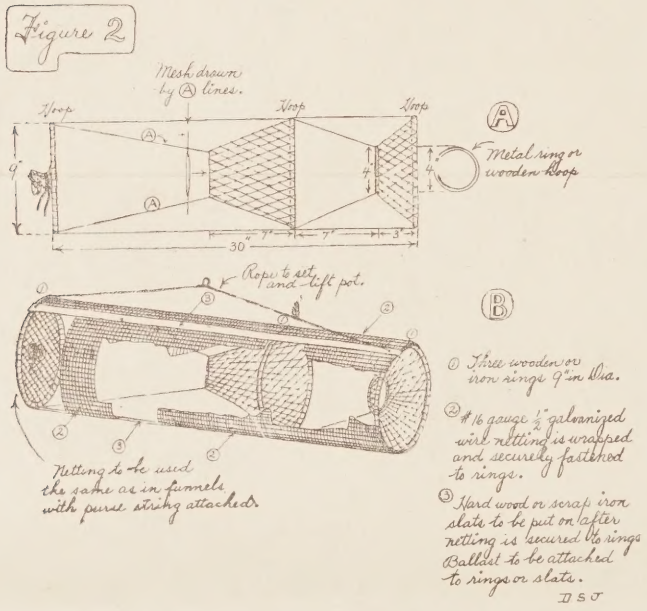
Board or brush wings are a permanent fixture, while the wooden frame with funnelled bag is removed at the end of each fishing season. The net should be attended regularly particularly during warm, dark, stormy nights, as experience has shown that most of the eels run under such conditions.

Fishermen should obtain the approval of the local Inspector of Fisheries with regard to the location and extent of such a fishing barrier in a river.

Eel-pot fishing.

In this method the fish are attracted by means of bait through a funnel or series of funnels into a chamber from which escape is difficult. Commercial eel pots are square, cylindrical, half round or rectangular in shape and may be made of such materials as wire netting, cotton webbing, boxes, barrels, nail kegs, banana crates or withe-rod basketwork. Eels are fished with this gear from May to late October in the muddy lakes and streams, estuaries and tidal marshes. Since eels are more active at night, best results are obtained by setting pots in the evening and hauling them in the morning.

A typical modern eel pot is illustrated in figures 2 (a) and (b). This trap consists of three metal or wooden hoops supported by two metal slats. An outer funnel leads into the "kitchen" and an inner into the "parlor" as in a lobster trap. The whole is covered with galvanized wire or cotton webbing of one-half-inch mesh.

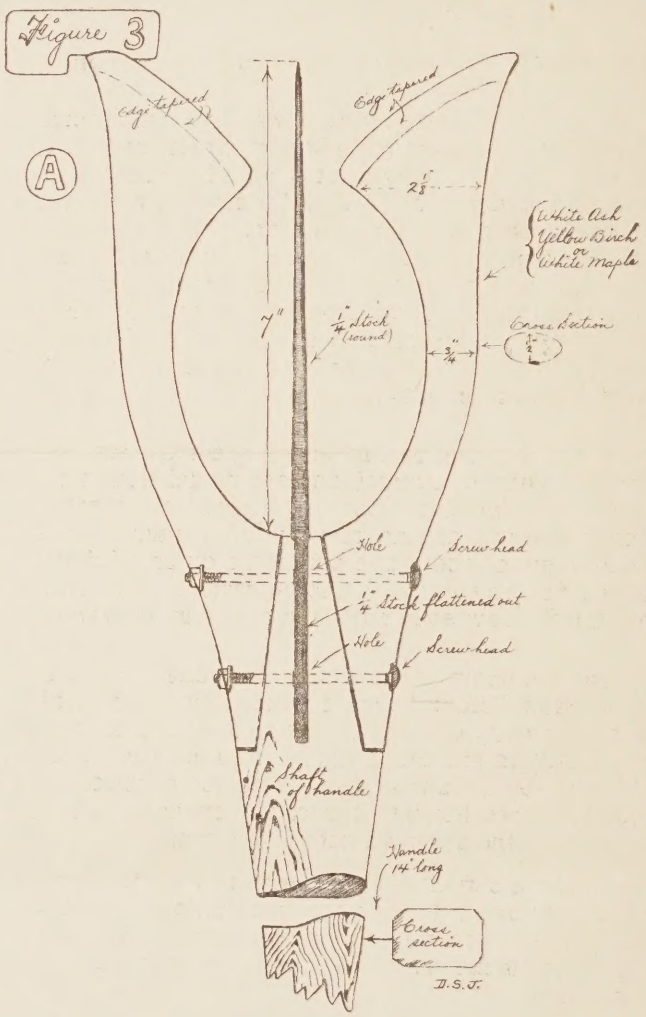


Pots may be set singly or with ten to twenty-five on a single buoyed line. Fresh or salted fish and chopped clams provide excellent bait. The bait which is secured in a "bait-bag" hung in front of the inner funnel should be changed every day.

Rocks, concrete slabs or scrap metal provide excellent ballast when placed inside or attached along the outside of the pot.

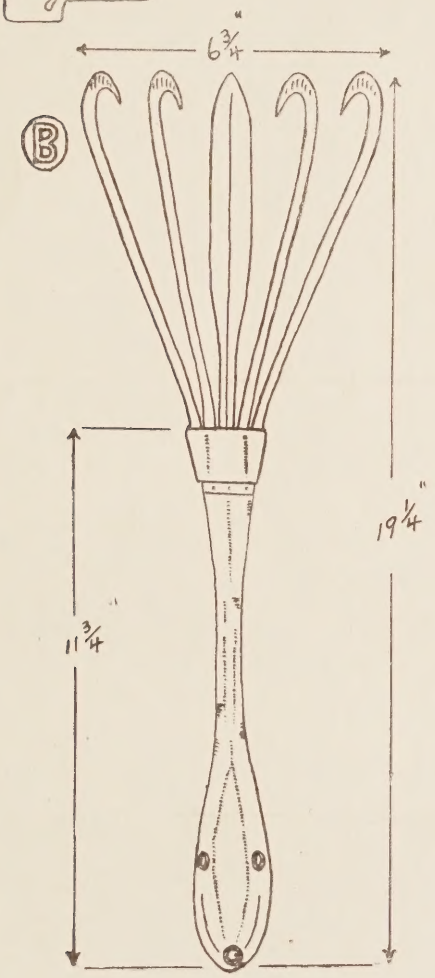
Eel spearing.

In addition to the pots and weirs a **"summer spear"** is used to catch eels during periods when they are feeding and migrating. This spear (figure 3 (a)) has a long wooden handle with two flexible wooden tines made of white ash, yellow birch or white maple bolted to a long iron spike. Fishing is done from a boat with a lantern at night or in the daytime over muddy and weedy bottom.



During the winter months when the eels are lying buried one or two inches in the mud of estuaries and lakes, the only means of fishing them is with an iron-tined **"winter spear"** (figure 3 (b)). This spear has four to six flexible tines with incurved barbs and is especially suited for probing bottom where one may expect to find eels.

Figure 3



Holding eels alive.

Eels are a very hardy fish and easy to keep alive. A "live car" or small half-submerged crate about four feet by three feet with a hinged cover is inexpensive to build and can be anchored in a convenient location. Marketable quantities of eels can be collected and held in this manner for at least ten days providing there is no overcrowding and that there is a good circulation of water through the "car."

Maintenance of gear.

Nets and pots should be carefully inspected for holes through which eels might escape. Eels are strong and can squeeze through openings which appear much too small for them. Dipping in coal tar helps preserve the cotton webbing, wire netting and wooden pieces used.

Marketing.

Since 1938, Canada has exported more than nine hundred thousand pounds yearly to a ready market in the New York-Philadelphia area. The export value has risen from eighty-one thousand dollars in 1938 to one hundred and thirty thousand dollars in 1945. To the fisherman this has meant an increase from seven cents to eleven cents a pound for his eel catch.

The numerous inquiries from dealers and enterprising fishermen indicate an increasing interest in the possibilities of an expanded Maritime eel fishery to meet the apparent steadily-growing demand for eels as food.

List of Circulars

Out of Print

1 and 3, on the "Irish Moss Industry"
2, "Canadian Atlantic Offshore Landings 1938-40 inclusive"
5, "Long-lining Improves Fishing Efficiency"

Available on Request.

4, "Wider Lath Spaces Protect Short Lobsters"
6, "Green-Gilled Oysters are Wholesome"
7, "Prairie 'Jigger' for Setting Gill Nets Under Ice"
8, "Improve Trout Angling by Poisoning Coarse Fish"
9, "Clam Farming in the Maritimes - Prelim.Info."
10, "Irish Moss Industry in the Maritime Province"
11, "Protection of Short Lobsters in Market Lobster Areas"
12, "Flounders of the Maritimes"